

***Mycobacterium tuberculosis* DeADMAN  
DNA Microarray, 12K, Version 2****Catalog No. NR-18958**

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National Institutes of Allergy and Infectious Diseases (NIAID),  
National Institutes of Health (NIH)

**Manufacturer:**

Pathogen Functional Genomics Resource Center at the J.  
Craig Venter Institute

**Manufacturing Date: 10JUN2010****Product Description:**

The *Mycobacterium tuberculosis* (*M. tuberculosis*) DeADMAN (Designer Arrays for Defined Mutant Analysis) DNA microarray provides a simple method used to identify genes that are essential for survival of a stress condition in *in vivo* model systems of *M. tuberculosis* infection.<sup>1</sup> A pool of genetically defined transposon mutants (input pool) is used to infect an animal. The infected animal is subjected to a stress condition and the mutants are harvested from the lungs and spleen several weeks postinfection (output pool). Mutants from the input pool and the output pool are identified by amplification of the unique transposon junction sequences of each mutant.<sup>2</sup> The input and output pools are labeled with different fluorescent dyes and hybridized to the DeADMAN microarray. The competitive hybridization of the two pools to the DeADMAN microarray allows for the easy detection of mutants that are present in the input pool and absent from the output pool.<sup>1</sup>

NR-18958 was designed primarily based on *M. tuberculosis*, strain H37Rv and has 12288 oligonucleotide spots distributed in 48 blocks and includes 392 different oligonucleotides. The arrays are coated with aminosilane. There are 20 transposon mutant knock-out pools available from BEI Resources (NR-15773 to NR-15792) that are companion products to the DeADMAN DNA microarray. Additional information for the *M. tuberculosis* DeADMAN DNA microarray, including oligonucleotide sequences, is available at the NCBI Gene Expression Omnibus (GEO) Accession: [GPL10551](http://www.ncbi.nlm.nih.gov/geo/acc/acc.cgi?acc=GSE10551).

**Note:** The DeADMAN DNA microarray has a demonstrated shelf-life of one year and is past the original expiration date of 10JUN2011. However, if the microarray has been stored under desiccated conditions it is expected to be useful for research purposes for two years or more past the expiration date.

**Material Provided:**

NR-18958 is provided as a glass microscope slide printed with 12288 oligonucleotide spots.

**Packaging/Storage:**

The microarray slides are shipped in a single plastic, crack-resistant, slide holder in a sealed foil pouch containing desiccant. Slides should be stored at room temperature with desiccant immediately upon arrival.

**Citation:**

Acknowledgment for publications should read "The following reagent was obtained through the NIH Biodefense and Emerging Infections Research Resources Repository, NIAID, NIH: *Mycobacterium tuberculosis* DeADMAN DNA Microarray, 12K, Version 2, NR-18958."

**Biosafety Level: 1**

Appropriate safety procedures should always be used with this material. Laboratory safety is discussed in the following publication: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, and National Institutes of Health. Biosafety in Microbiological and Biomedical Laboratories. 5th ed. Washington, DC: U.S. Government Printing Office, 2009; see [www.cdc.gov/biosafety/publications/bmb15/index.htm](http://www.cdc.gov/biosafety/publications/bmb15/index.htm).

**Disclaimers:**

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**References:**

1. Lamichhane, G., S. Tyagi and W. R. Bishai. "Designer Arrays for Defined Mutant Analysis to Detect Genes Essential for Survival of *Mycobacterium tuberculosis* in Mouse Lungs." *Infect. Immun.* 73 (2005): 2533-2540. PubMed: 15784600.
2. Lamichhane, G., et al. "A Postgenomic Method for Predicting Essential Genes at Subsaturating Levels of Mutagenesis: Application to *Mycobacterium tuberculosis*." *Proc. Natl. Acad. Sci. U. S. A.* 100 (2003): 7213-7218. PubMed: 12775759.

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